

Utah Communicable Disease Report, 2018

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1 Introduction

The **Utah Communicable Disease Report 2018** is a web-based report; this is the PDF version and lacks some features of the web-based report, but all critical information is retained. You can navigate through the different chapters by using the table of contents at the top of the document.

1.1 Acknowledgements

The UDOH recognizes the efforts of local health department (LHD) personnel throughout the state who play a critical role in data collection and case investigation; their work allows for accurate and timely reporting of communicable disease data.

UDOH also recognizes the efforts of other reporting partners, including laboratories, healthcare facilities, healthcare providers, and the public, in the provision of communicable disease data that have contributed to this report.

Reportable communicable disease data for Utah are published by the Utah Department of Health, Bureau of Epidemiology.

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1.2 Preface

The *Communicable Disease Annual Report for Utah, 2018* contains data related to Utah's reportable diseases and conditions reported in Utah for 2018. The data reported are collected from Utah's local health departments (LHDs), laboratories, healthcare providers, hospitals, and other healthcare facilities. The Utah Department of Health (UDOH) tracks more than 75 communicable diseases in Utah annually. Each case of disease is investigated in collaboration with the LHDs.

The **Highlights** section presents noteworthy epidemiologic information from 2018 for selected diseases and additional information to aid in the interpretation of surveillance data. Incidence data (new cases of reportable conditions in 2018), historical 5-year averages, and the incidence rates are presented in [State Disease Activity] table. In addition, a summary of cases of reportable disease by LHD is presented in the [Jurisdiction Disease Activity] section, and historical case counts and rates are presented in **Yearly Disease Comparison** section. Cases are counted by the year the disease occurred as determined by the *Morbidity and Mortality Weekly Report (MMWR)* week assigned by the Centers for [Disease Control and Prevention \(CDC\)](http://www.cdc.gov).

1.3 Important note about influenza

Throughout this report, influenza data are presented in the year that the influenza season **ended**, and represent data for the [CDC defined influenza season](#). Influenza season typically begins in October and surveillance extends through May of the following year. For example, data presented for the year 2018 is indicative of data collected from the 2017–2018 influenza season. Presenting data in this way provides accurate measures for annual influenza activity. Sporadic cases of influenza that occur outside of the traditional influenza season are assigned to the previous season (i.e., an influenza case reported in August of 2017 would be assigned to the 2016–2017 influenza season). This report reflects activity for the 2017–2018 influenza season. More information on influenza activity in Utah can be found [here](#).

1.4 Background

A multidisciplinary approach to communicable disease control has been established in Utah and includes prompt reporting, data analysis, data interpretation, case investigation, identification of common risk factors, treatment, and implementation of disease prevention interventions. The successes of medicine and public health have dramatically reduced the risk of illnesses, hospitalizations, and deaths due to infectious agents during the 20th century. However, emergence of new diseases and the rapid spread of diseases globally, made possible by advances in transportation, trade, food production, and other factors, highlight the continual threat to health from infectious diseases. Attention to these threats and cooperation among all healthcare providers, government agencies, and other entities that are partners in protecting the public's health are crucial to maintaining and improving the health of Utah's citizens. ¹

The important role that disease surveillance plays in protecting the public's health has been expressed by the CDC as follows:

“Case-reporting of reportable diseases at the local level protects the public's health by ensuring the proper identification and follow-up of cases. Public health workers ensure that persons who are already ill receive appropriate treatment; trace contacts who need vaccines, treatment, quarantine, or education; investigate and halt outbreaks; eliminate environmental hazards; and close premises where spread may occur. Surveillance of notifiable conditions helps public health authorities monitor the effect of notifiable conditions, measure disease trends, assess the effectiveness of control and prevention measures, identify populations or geographic areas at high risk, allocate resources appropriately, formulate prevention strategies, and develop public health policies. Monitoring surveillance data enables public health authorities to detect sudden changes in disease occurrence and distribution, identify changes in agents and host factors, and detect changes in health-care practices.” ²

¹Utah Division of Administrative Rules. Utah Administrative Code Rule R386-702, Communicable Disease Rule. Available at: <https://rules.utah.gov/publicat/code/r386/r386-702.htm>

²Centers for Disease and Prevention (2014). Summary of Notifiable Diseases—United States, 2012. Morbidity and Mortality Weekly Report (MMWR), 61(53). Available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6153a1.htm>

Reportable Communicable Diseases in Utah, 2018³

Acinetobacter species with resistance to carbapenems
Acute Flaccid Myelitis
Acquired Immunodeficiency Syndrome (AIDS)
Adverse event resulting from smallpox vaccination
Anaplasmosis
Anthrax
Arbovirus infection, including Saint Louis encephalitis and West Nile virus
Babesiosis
Botulism
Botulism, infant
Brucellosis
Campylobacteriosis
Chancroid
Chickenpox
Chlamydia trachomatis infection
Cholera
Coccidioidomycosis
Colorado tick fever
Creutzfeldt-Jacob disease and other transmissible human spongiform encephalopathies
Cryptosporidiosis
Cyclosporiasis
Dengue fever
Diphtheria
Ehrlichiosis, human granulocytic, human monocytic, or unspecified
Encephalitis
Enterobacter species with resistance or intermediate resistance to carbapenems
Escherichia coli with resistance or intermediate resistance to carbapenems

³Disease reporting is mandated by state legislation and administrative code. This list reflects the diseases, illnesses, and conditions to be of concern to public health and reportable as specified in the Utah Administrative Code Rule R386-702, and required or authorized by Section 26-6-6 and Title 26, Chapter 23b of the Utah Health Code for the year 2018. The list of reportable diseases and conditions in Utah is revised periodically. A disease may be added to the list as a new public health threat emerges, or a disease may be removed as its incidence declines.

Giardiasis
Gonorrhea
Haemophilus influenzae, invasive disease
Hansen's disease (Leprosy)
Hantavirus pulmonary syndrome
Hemolytic uremic syndrome, post-diarrheal
Hepatitis A
Hepatitis B, cases and carriers
Hepatitis C, acute and chronic
Hepatitis, other viral
Human Immunodeficiency Virus (HIV) infection
Influenza-associated hospitalization
Influenza-associated pediatric death
Klebsiella species with resistance or intermediate resistance to carbapenems
Legionellosis
Listeriosis
Lyme disease
Malaria
Measles
Meningitis (aseptic, bacterial, fungal, parasitic, protozoan, and viral)
Meningococcal disease
Mumps
Mycobacteria other than tuberculosis
Norovirus
Pertussis (whooping cough)
Plague
Poliomyelitis, paralytic
Poliovirus infection, nonparalytic
[Pregnancy associated with Hepatitis B, Hepatitis C, HIV, *Listeria*, Rubella, Syphilis, or Zika virus infection]
Psittacosis
Q Fever

Rabies, human and animal

Relapsing fever, tick-borne and louse-borne

Rubella

Rubella, congenital syndrome

Salmonellosis

Severe acute respiratory syndrome (SARS)

Shiga toxin-producing *Escherichia coli* (STEC) infection

Shigellosis

Smallpox

Spotted fever rickettsioses, including Rocky Mountain spotted fever

Staphylococcus aureus with resistance (VRSA)

Streptococcal disease, invasive, including: *Streptococcus pneumoniae* and Groups A, B, C, and G streptococci isolated from a normally sterile site

Syphilis, all stages and congenital

Tetanus

Toxic-shock syndrome, staphylococcal or streptococcal

Trichinellosis

Tuberculosis

Tularemia

Typhoid, cases and carriers

Vibriosis

Viral hemorrhagic fevers, including *Ebola*, *Lassa*, *Marburg*, and *Nipah* virus-related illnesses

Yellow fever

Zika Virus

2 Highlights

The following are summaries for selected communicable diseases highlighting conditions that had notable incidence, outbreaks, or other factors.

2.1 Hepatitis C, acute cases

In Utah, acute HCV infections are increasing most rapidly among people 20-29 years of age. The increase within this age demographic is thought to be the result of an increase in injection drug use associated with the opioid epidemic. Injection drug use is the risk factor associated with the majority of HCV transmission in Utah, and therefore, people who inject drugs (PWIDs) are a priority population for public health intervention. Acute HCV surveillance data indicate a total of 101 acute HCV cases were reported in Utah in 2017. This number increased to 156 cases in 2018, likely due to increased numbers of PWID, coupled with implementation of several surveillance system changes including enhanced surveillance activities and investigational process improvements. These changes resulted in the increased ability to identify acute HCV cases in Utah. Public health efforts are ongoing to identify possible sources of HCV transmission in the community.

2.2 Acute Flaccid Myelitis

Acute flaccid myelitis (AFM) is a rare but serious condition. It affects the nervous system, specifically the area of the spinal cord called gray matter, which causes the muscles and reflexes in the body to become weak. The risk factors for AFM are unknown, but most cases are seen among children with a preceding respiratory or febrile illness. In 2018, Utah submitted seven suspect cases of AFM to the Centers for Disease Control and Prevention (CDC) and one case was classified as a confirmed case of AFM.

2.3 Human Rabies Case

In November 2018, the Utah Department of Health (UDOH) was notified of a suspect human rabies case in a resident of Utah. In collaboration with several local health departments and the Centers for Disease Control and Prevention (CDC), the UDOH conducted an investigation into the case to verify the diagnosis and determine the source of infection. Upon receipt of laboratory specimens from the Utah Public Health Laboratory and the Office of the Medical Examiner, the CDC confirmed the patient was infected with a strain of rabies virus associated with the Mexican Freetail Bat. The patient reportedly had handled several bats in the weeks before symptom onset. The patient subsequently died as a result of the infection.

2.4 Shiga toxin-producing *E. coli*/Hemolytic Uremic Syndrome

Shiga toxin-producing *E. coli* (STEC) was elevated in Utah and nationally in 2018. This increase was due to several large, multi-state outbreaks, as well as the adoption of more sensitive laboratory

tests. STEC infections can lead to Hemolytic Uremic Syndrome (HUS), a complication that affects the kidneys.

The largest STEC outbreak for 2018 was associated with consumption of romaine lettuce; it affected 210 people from 36 states and resulted in 96 hospitalizations and five deaths. Utah had <5 cases associated with this outbreak.

In Utah, we identified seven outbreaks of STEC in 2018, with a total of 39 cases. These outbreaks were associated with multiple sources of infection including raw milk, cow manure, water features, and petting zoos. In total, there were 197 cases identified in Utah (outbreak-associated and sporadic), including confirmed (122) and probable (75) cases of STEC. There were a total of 40 hospitalizations which includes 12 cases of HUS. There were no deaths.

2.5 Gonorrhea

Since 2011, the rate of gonorrhea has increased 825%. However, the 2018 rate was only 11% higher than the 2017 rate (2,895 cases of gonorrhea were reported in 2018 compared with 2,541 cases reported in 2017). Gonorrhea infections are commonly asymptomatic and re-infection after treatment is possible. UDOH and Utah's LHDs are closely monitoring the increase. LHD Disease Intervention Specialists (DIS) investigate all reported cases of gonorrhea, ensure appropriate treatment, and provide partner services.

2.6 Syphilis

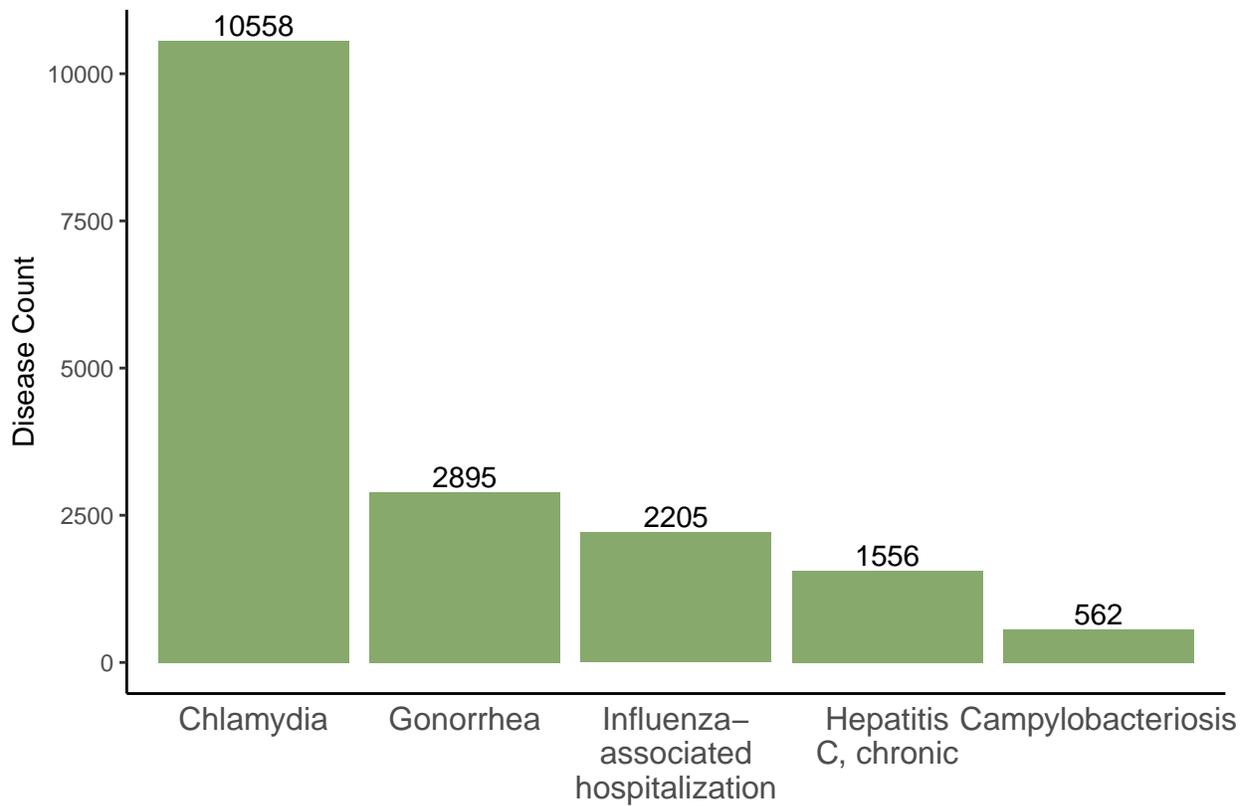
The U.S. and Utah have recently experienced a resurgence in syphilis cases. In 2018, the Utah rate of primary and secondary (P&S) syphilis was 5.3 cases per 100,000 persons. This represents a 39.1% increase from the 2017 rate and the upward trend is reason for concern. Syphilis is concentrated in Utah along the Wasatch Front, with more than 70% of 2018 P&S syphilis cases reported in Salt Lake County. The majority of syphilis cases occur among gay, bisexual, and other men who have sex with men (MSM). In 2018, three out of four P&S syphilis cases reported being MSM.

3 Overall State Disease Activity

3.1 Top Diseases of 2018

The top five highest disease counts in the state of Utah were:

1. **Chlamydia** with **10,558** cases.
2. **Gonorrhea** with **2,895** cases.
3. **Influenza-associated hospitalization** with **2,205** cases.
4. **Hepatitis C, chronic** with **1,556** cases.
5. **Campylobacteriosis** with **562** cases.



3.2 2018 State Disease Table

The State Disease Table includes the 2018 Count⁴, Previous Five-Year Count Average⁵, Utah 2018 Rate⁶, and the Disease Trend⁷.

Disease	2018 Count	Previous 5 Year Count Average	Utah 2018 Rate	Trend
Acinetobacter species resistant to carbapenems	26	3	0.8	Increasing
Acute Flaccid Myelitis	1	1.2	0	Consistent
Adverse event resulting from smallpox vaccination	0	0.2	0	Consistent
Anthrax	0	0	0	Not enough information
Arbovirus infection (not including West Nile, Dengue, or Yellow Fever)	1	1.8	0	Consistent
Babesiosis	1	0.2	0	Consistent
Botulism, total	3	4.6	<i>0.1</i>	Consistent
Botulism, foodborne	1	0.4	0	Consistent
Botulism, infant	2	4	<i>0.1</i>	Consistent
Botulism, other (wound/unspecified)	0	0.2	0	Consistent
Brucellosis	0	0.6	0	Consistent
Campylobacteriosis	560	520.6	<i>18.1</i>	Consistent
Chagas Disease	0	0.4	0	Consistent
Chancroid	0	0	0	Not enough information
Chickenpox	196	228.4	6.3	Consistent
Chlamydia	10,541	8,784.2	339.8	Consistent
Cholera	0	0	0	Not enough information
Coccidioidomycosis	54	53.6	1.7	Consistent
Colorado tick fever	1	0.2	0	Consistent

⁴Count is the total disease count in 2018. For influenza, count is the total disease count in the 2017–2018 influenza season

⁵The average disease counts for the five years prior to 2018

⁶The “Rate” indicates infections per 100,000 population. Caution should be used when interpreting rates in italics; the estimate has a relative standard error greater than 30% and does not meet UDOH standards for reliability.

⁷Changes in Trend are based on statistical significance (using a p-value of 0.10), i.e., higher or lower than the five-year average.

(continued)

Disease	2018 Count	Previous 5 Year Count Average	Utah 2018 Rate	Trend
Creutzfeldt-Jakob disease and other transmissible human spongiform encephalopathies	5	4.2	0.2	Consistent
Cryptosporidiosis	197	126.8	6.4	Consistent
Cyclosporiasis	21	5	0.7	Increasing
Dengue	6	5.2	0.2	Consistent
Diphtheria	0	0	0	Not enough information
Ehrlichiosis/Anaplasmosis	1	1	0	Consistent
Encephalitis	5	4	0.2	Consistent
Enterobacter species resistant to carbapenems	1	0.8	0	Consistent
Escherichia coli resistant to carbapenems	6	0.4	0.2	Increasing
Giardiasis	233	207.2	7.5	Consistent
Gonorrhea	2,895	1,718.2	93.3	Consistent
HIV infection	121	121.4	3.9	Consistent
Haemophilus influenzae, all ages, invasive disease	56	51.2	1.8	Consistent
nonserotype B, age <5 years	8	5.6	0.3	Consistent
serotype B, age <5 years	0	0.4	0	Consistent
unknown serotype, age <5 years	1	0.2	0	Consistent
Hansen's disease (Leprosy)	2	0.6	0.1	Consistent
Hantavirus infection	1	1.8	0	Consistent
Hemolytic uremic syndrome, post-diarrheal	12	6.6	0.4	Consistent
Hepatitis A	135	40.2	4.4	Consistent
Hepatitis B, acute	36	10.6	1.2	Increasing
Hepatitis B, chronic	304	99.4	9.8	Consistent
Hepatitis C, acute	155	56	5	Increasing
Hepatitis C, chronic	1,611	1,409	51.9	Increasing
Hepatitis, other viral	3	0.8	0.1	Increasing
Influenza-associated hospitalization	2,205	1,262.6	71.1	Increasing
Influenza-associated pediatric mortality	1	2	0	Consistent

(continued)

Disease	2018 Count	Previous 5 Year Count Average	Utah 2018 Rate	Trend
Klebsiella species resistant to carbapenems	4	4.4	0.1	Consistent
Legionellosis	34	28.4	1.1	Consistent
Leptospirosis	2	0.6	0.1	Increasing
Listeriosis	2	4.4	0.1	Consistent
Lyme disease	28	17.4	0.9	Consistent
Malaria	10	7	0.3	Consistent
Measles	0	1.4	0	Consistent
Meningitis, aseptic	83	48.4	2.7	Consistent
Meningitis, bacterial, other	41	20.2	1.3	Consistent
Meningitis, viral	75	58	2.4	Consistent
Meningococcal Disease (Neisseria meningitidis)	3	3.4	0.1	Consistent
Mumps	13	9.2	0.4	Consistent
Pertussis	433	694.8	14	Consistent
Plague	0	0.2	0	Consistent
Poliomyelitis, paralytic and nonparalytic	0	0	0	Not enough information
Psittacosis	0	0.2	0	Consistent
Q fever	5	3.4	0.2	Consistent
Rabies, animal	14	19.2	0.5	Consistent
Rabies, human	1	0	0	Not enough information
Relapsing fever, tick-borne and louse-borne	0	0.8	0	Consistent
Rubella	0	0.2	0	Consistent
Rubella, congenital syndrome	0	0	0	Not enough information
Salmonellosis	362	374.8	11.7	Consistent
Severe Acute Respiratory Syndrome (SARS)	0	0	0	Not enough information
Shiga toxin-producing Escherichia coli (STEC) infection	197	97.8	6.4	Increasing
Shigellosis	64	44.8	2.1	Consistent
Smallpox	0	0	0	Not enough information

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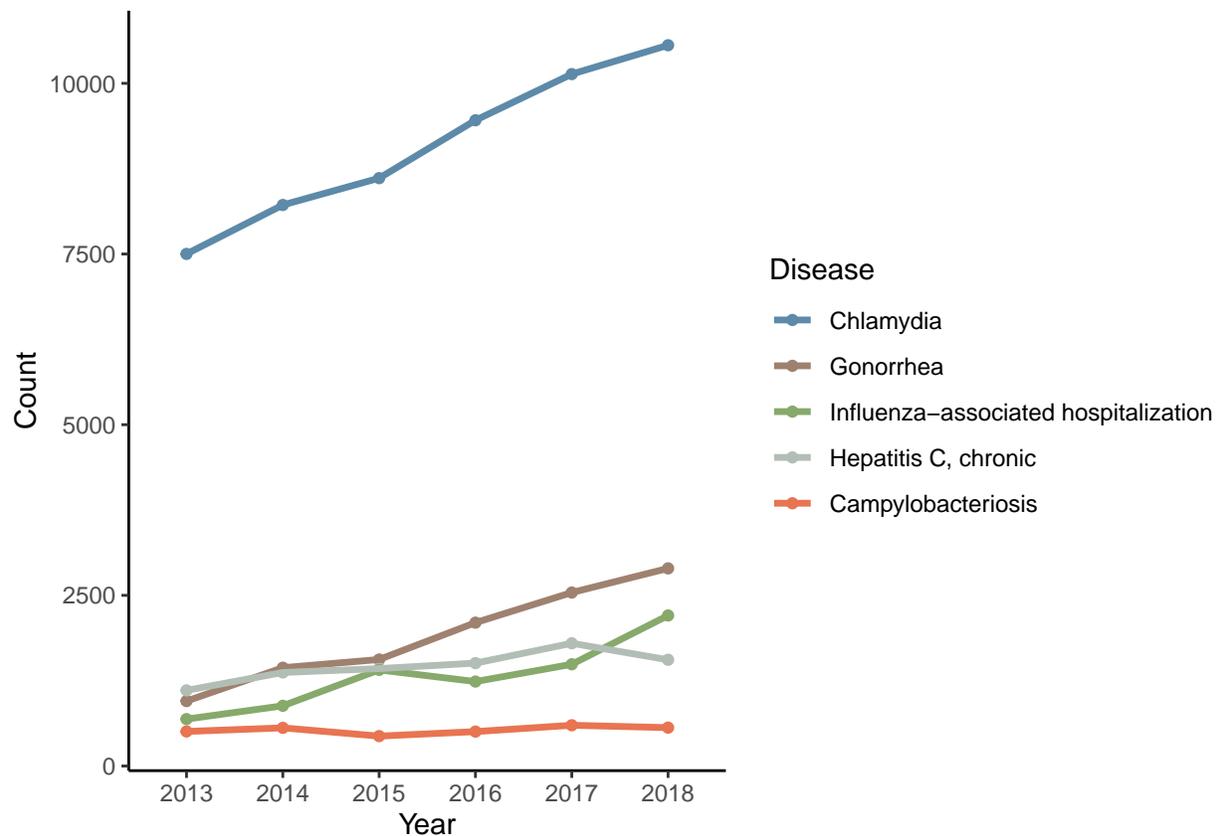
Disease	2018 Count	Previous 5 Year Count Average	Utah 2018 Rate	Trend
Spotted fever rickettsiosis (including Rocky Mountain Spotted Fever)	9	6.6	0.3	Consistent
Streptococcal disease, invasive, group A	244	168.6	7.9	Consistent
Streptococcal disease, invasive, group B	256	168.2	8.3	Consistent
Streptococcal disease, invasive, other	319	360.8	10.3	Consistent
Streptococcus pneumoniae, invasive disease	246	223	7.9	Consistent
age <5 years	22	20.8	0.7	Consistent
Syphilis, congenital	1	0	0	Not enough information
Syphilis, early (infection < 12 months)	272	136.6	8.8	Increasing
primary and secondary	169	81	5.4	Increasing
early latent	103	55.6	3.3	Increasing
Syphilis, latent (infection > 12 months)	145	75.6	4.7	Consistent
Tetanus	0	0	0	Not enough information
Toxic shock syndrome (staphylococcal or streptococcal)	34	23	1.1	Consistent
Trichinellosis	0	0.4	0	Consistent
Tuberculosis, active	18	30	0.6	Consistent
Tularemia	0	4	0	Consistent
Typhoid fever	2	1.2	0.1	Consistent
Vancomycin-resistant Staphylococcus aureus (VRSA)	0	0	0	Not enough information
Vibriosis	16	8	0.5	Consistent
Viral hemorrhagic fevers	0	0	0	Not enough information
West Nile virus, total	11	18.4	0.4	Consistent
Yellow fever	0	0	0	Not enough information

(continued)

Disease	2018 Count	Previous 5 Year Count Average	Utah 2018 Rate	Trend
Zika virus, congenital infection	0	0	0	Not enough information
Zika Virus Disease	11	7.8	0.4	Consistent

4 Yearly Disease Comparison

4.1 Top Five Disease Trends by Count



4.2 Yearly Disease Counts ⁸

Disease	2013	2014	2015	2016	2017	2018
Acinetobacter species resistant to carbapenems	2	2	5	4	2	26
Acute Flaccid Myelitis	0	0	1	3	2	1
Adverse event resulting from smallpox vaccination	0	0	0	0	1	0
Anthrax	0	0	0	0	0	0
Arbovirus infection (not including West Nile, Dengue, or Yellow Fever)	0	4	4	1	0	1

⁸Note about hepatitis B and hepatitis C: From 2014–2016, only confirmed cases were reported; in 2017–2018 confirmed and probable cases were reported.

(continued)

Disease	2013	2014	2015	2016	2017	2018
Babesiosis	0	0	0	0	1	1
Botulism, total	2	6	8	6	1	3
Botulism, foodborne	0	0	2	0	0	1
Botulism, infant	2	6	6	5	1	2
Botulism, other (wound/unspecified)	0	0	0	1	0	0
Brucellosis	0	0	3	0	0	0
Campylobacteriosis	506	559	438	504	596	560
Chagas Disease	0	1	1	0	0	0
Chancroid	0	0	0	0	0	0
Chickenpox	227	216	217	229	253	196
Chlamydia	7,501	8,217	8,611	9,459	10,133	10,541
Cholera	0	0	0	0	0	0
Coccidioidomycosis	44	54	55	41	74	54
Colorado tick fever	0	0	0	1	0	1
Creutzfeldt-Jakob disease and other transmissible human spongiform encephalopathies	0	3	9	2	7	5
Cryptosporidiosis	90	73	176	170	125	197
Cyclosporiasis	0	1	8	2	14	21
Dengue	8	3	2	7	6	6
Diphtheria	0	0	0	0	0	0
Ehrlichiosis/Anaplasmosis	1	0	2	0	2	1
Encephalitis	2	4	2	6	6	5
Enterobacter species resistant to carbapenems	0	0	2	2	0	1
Escherichia coli resistant to carbapenems	0	1	0	0	1	6
Giardiasis	231	228	205	161	211	233
Gonorrhea	951	1,439	1,560	2,100	2,541	2,895
HIV infection	111	118	125	138	115	121
Haemophilus influenzae, all ages, invasive disease	42	59	51	40	64	56
nonserotype B, age <5 years	0	1	9	8	10	8
serotype B, age <5 years	0	1	0	1	0	0
unknown serotype, age <5 years	0	0	0	0	1	1
Hansen's disease (Leprosy)	0	2	0	0	1	2
Hantavirus infection	0	3	2	2	2	1
Hemolytic uremic syndrome, post-diarrheal	3	8	4	6	12	12
Hepatitis A	12	9	8	12	160	135

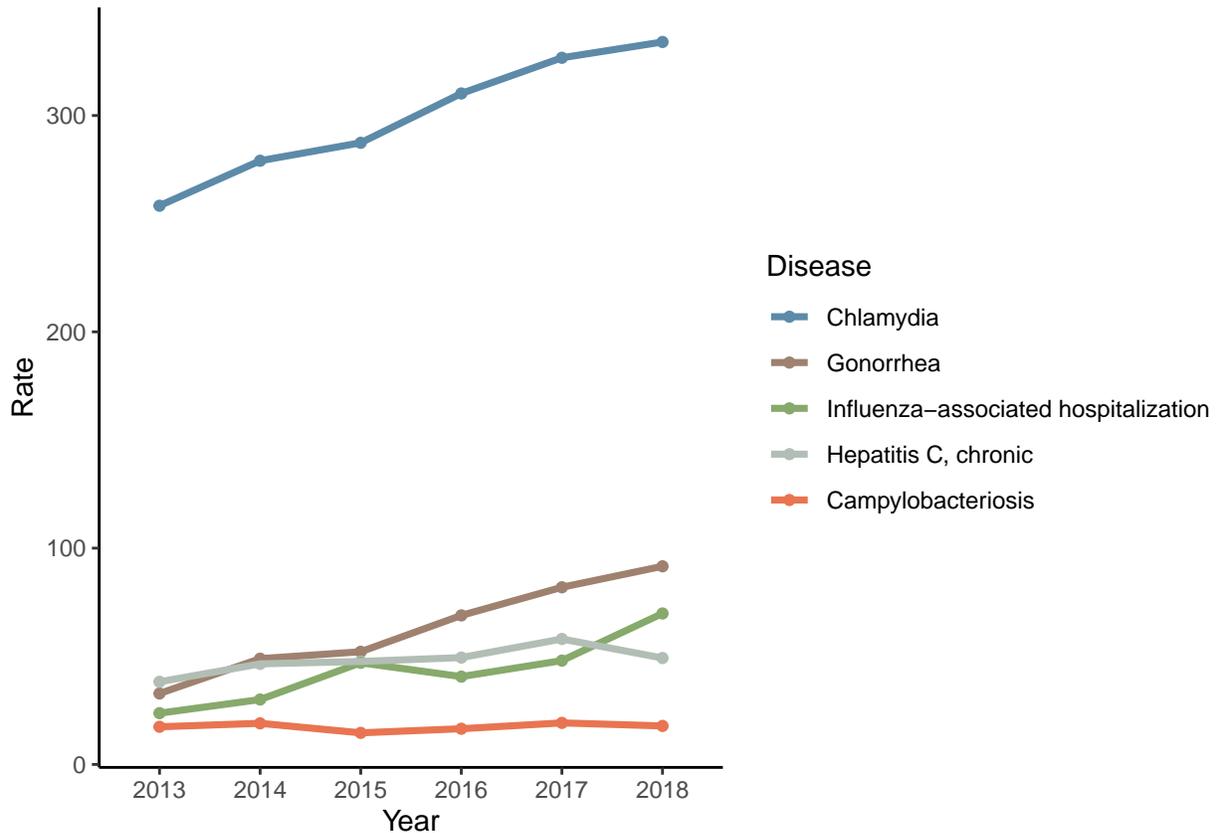
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Disease	2013	2014	2015	2016	2017	2018
Hepatitis B, acute	5	12	11	5	20	36
Hepatitis B, chronic	25	38	64	72	298	304
Hepatitis C, acute	22	43	34	80	101	155
Hepatitis C, chronic	1,056	1,311	1,386	1,451	1,841	1,611
Hepatitis, other viral	1	1	1	0	1	3
Influenza-associated hospitalization	687	882	1,408	1,237	1,490	2,205
Influenza-associated pediatric mortality	4	3	2	1	0	1
Klebsiella species resistant to carbapenems	1	1	8	5	7	4
Legionellosis	22	28	31	30	31	34
Leptospirosis	0	1	0	1	1	2
Listeriosis	3	9	0	4	6	2
Lyme disease	18	13	12	19	25	28
Malaria	7	5	6	8	9	10
Measles	0	3	1	0	3	0
Meningitis, aseptic	38	40	22	48	94	83
Meningitis, bacterial, other	25	16	13	11	36	41
Meningitis, viral	25	34	60	77	94	75
Meningococcal Disease (Neisseria meningitidis)	9	1	2	3	2	3
Mumps	2	2	0	2	40	13
Pertussis	1,307	944	507	268	448	433
Plague	0	0	1	0	0	0
Poliomyelitis, paralytic and nonparalytic	0	0	0	0	0	0
Psittacosis	0	0	0	0	1	0
Q fever	3	9	0	3	2	5
Rabies, animal	12	22	21	18	23	14
Rabies, human	0	0	0	0	0	1
Relapsing fever, tick-borne and louse-borne	0	1	0	0	3	0
Rubella	0	1	0	0	0	0
Rubella, congenital syndrome	0	0	0	0	0	0
Salmonellosis	323	371	460	332	388	362
Severe Acute Respiratory Syndrome (SARS)	0	0	0	0	0	0
Shiga toxin-producing Escherichia coli (STEC) infection	83	91	97	78	140	197
Shigellosis	25	40	36	79	44	64
Smallpox	0	0	0	0	0	0
Spotted fever rickettsiosis (including Rocky Mountain Spotted Fever)	5	8	5	5	10	9

(continued)

Disease	2013	2014	2015	2016	2017	2018
Streptococcal disease, invasive, group A	120	115	169	217	222	244
Streptococcal disease, invasive, group B	129	132	155	200	225	256
Streptococcal disease, invasive, other	295	287	368	421	433	319
Streptococcus pneumoniae, invasive disease	205	205	191	246	268	246
age <5 years	24	25	14	24	17	22
Syphilis, congenital	0	0	0	0	0	1
Syphilis, early (infection < 12 months)	131	93	102	154	203	272
primary & secondary	78	51	66	93	117	169
early latent	53	42	36	61	86	103
Syphilis, latent (infection > 12 months)	21	66	88	106	97	145
Tetanus	0	0	0	0	0	0
Toxic shock syndrome (staphylococcal or streptococcal)	12	14	24	34	31	34
Trichinellosis	0	1	1	0	0	0
Tuberculosis, active	33	31	37	20	29	18
Tularemia	2	1	5	5	7	0
Typhoid fever	1	3	1	1	0	2
Vancomycin-resistant Staphylococcus aureus (VRSA)	0	0	0	0	0	0
Vibriosis	2	3	9	11	15	16
Viral hemorrhagic fevers	0	0	0	0	0	0
West Nile virus, total	7	2	8	13	62	11
Yellow fever	0	0	0	0	0	0
Zika virus, congenital infection	0	0	0	0	0	0
Zika Virus Disease	0	0	1	29	9	11

4.3 Top Five Disease Trends by Rate per 100,000 People



4.4 Yearly Disease Rates per 100,000 People

Rates are defined as infections per 100,000 population. Caution should be used when interpreting rates listed in *italics*. The estimate has a relative standard error greater than 30% and does not meet the UDOH standards for reliability.

Note about hepatitis B and hepatitis C: From 2014–2016, only confirmed cases were reported; in 2017–2018 confirmed and probable cases were reported.

Disease	2013	2014	2015	2016	2017	2018
Acinetobacter species resistant to carbapenems	<i>0.1</i>	<i>0.1</i>	41	<i>0.1</i>	<i>0.1</i>	0.8
Acute Flaccid Myelitis	0	0	0	<i>0.1</i>	<i>0.1</i>	0
Adverse event resulting from smallpox vaccination	0	0	0	0	0	0
Anthrax	0	0	0	0	0	0
Arbovirus infection (not including West Nile, Dengue, or Yellow Fever)	0	<i>0.1</i>	58	0	0	0

(continued)

Disease	2013	2014	2015	2016	2017	2018
Babesiosis	0	0	0	0	0	0
Botulism, total	0.1	0.2	33	0.2	0	0.1
Botulism, foodborne	0	0	58	0	0	0
Botulism, infant	0.1	0.2	41	0.2	0	0.1
Botulism, other (wound/unspecified)	0	0	0	0	0	0
Brucellosis	0	0	58	0	0	0
Campylobacteriosis	17.4	19	5	16.5	19.2	18.1
Chagas Disease	0	0	0	0	0	0
Chancroid	0	0	0	0	0	0
Chickenpox	7.8	7.3	7	7.5	8.2	6.3
Chlamydia	258.3	279.1	1	310.2	326.7	339.8
Cholera	0	0	0	0	0	0
Coccidioidomycosis	1.5	1.8	14	1.3	2.4	1.7
Colorado tick fever	0	0	0	0	0	0
Creutzfeldt-Jakob disease and other transmissible human spongiform encephalopathies	0	0.1	33	0.1	0.2	0.2
Cryptosporidiosis	3.1	2.5	8	5.6	4	6.4
Cyclosporiasis	0	0	33	0.1	0.5	0.7
Dengue	0.3	0.1	58	0.2	0.2	0.2
Diphtheria	0	0	0	0	0	0
Ehrlichiosis/Anaplasmosis	0	0	58	0	0.1	0
Encephalitis	0.1	0.1	58	0.2	0.2	0.2
Enterobacter species resistant to carbapenems	0	0	58	0.1	0	0
Escherichia coli resistant to carbapenems	0	0	0	0	0	0.2
Giardiasis	8	7.7	7	5.3	6.8	7.5
Gonorrhea	32.8	48.9	3	68.9	81.9	93.3
HIV infection	3.8	4	9	4.5	3.7	3.9
Haemophilus influenzae, all ages, invasive disease	1.4	2	14	1.3	2.1	1.8
nonserotype B, age <5 years	0	0	33	0.3	0.3	0.3
serotype B, age <5 years	0	0	0	0	0	0
unknown serotype, age <5 years	0	0	0	0	0	0
Hansen's disease (Leprosy)	0	0.1	0	0	0	0.1
Hantavirus infection	0	0.1	58	0.1	0.1	0
Hemolytic uremic syndrome, post-diarrheal	0.1	0.3	58	0.2	0.4	0.4
Hepatitis A	0.4	0.3	33	0.4	5.2	4.4
Hepatitis B, acute	0.2	0.4	29	0.2	0.6	1.2
Hepatitis B, chronic	0.9	1.3	13	2.4	9.6	9.8
Hepatitis C, acute	0.8	1.5	17	2.6	3.3	5

(continued)

Disease	2013	2014	2015	2016	2017	2018
Hepatitis C, chronic	36.4	44.5	3	47.6	59.4	51.9
Hepatitis, other viral	0	0	0	0	0	0.1
Influenza-associated hospitalization	23.7	30	3	40.6	48	71.1
Influenza-associated pediatric mortality	0.1	0.1	58	0	0	0
Klebsiella species resistant to carbapenems	0	0	33	0.2	0.2	0.1
Legionellosis	0.8	1	18	1	1	1.1
Leptospirosis	0	0	0	0	0	0.1
Listeriosis	0.1	0.3	0	0.1	0.2	0.1
Lyme disease	0.6	0.4	29	0.6	0.8	0.9
Malaria	0.2	0.2	41	0.3	0.3	0.3
Measles	0	0.1	0	0	0.1	0
Meningitis, aseptic	1.3	1.4	22	1.6	3	2.7
Meningitis, bacterial, other	0.9	0.5	29	0.4	1.2	1.3
Meningitis, viral	0.9	1.2	13	2.5	3	2.4
Meningococcal Disease (Neisseria meningitidis)	0.3	0	58	0.1	0.1	0.1
Mumps	0.1	0.1	0	0.1	1.3	0.4
Pertussis	45	32.1	4	8.8	14.4	14
Plague	0	0	0	0	0	0
Poliomyelitis, paralytic and nonparalytic	0	0	0	0	0	0
Psittacosis	0	0	0	0	0	0
Q fever	0.1	0.3	0	0.1	0.1	0.2
Rabies, animal	0.4	0.7	22	0.6	0.7	0.5
Rabies, human	0	0	0	0	0	0
Relapsing fever, tick-borne and louse-borne	0	0	0	0	0.1	0
Rubella	0	0	0	0	0	0
Rubella, congenital syndrome	0	0	0	0	0	0
Salmonellosis	11.1	12.6	5	10.9	12.5	11.7
Severe Acute Respiratory Syndrome (SARS)	0	0	0	0	0	0
Shiga toxin-producing Escherichia coli (STEC) infection	2.9	3.1	10	2.6	4.5	6.4
Shigellosis	0.9	1.4	17	2.6	1.4	2.1
Smallpox	0	0	0	0	0	0
Spotted fever rickettsiosis (including Rocky Mountain Spotted Fever)	0.2	0.3	41	0.2	0.3	0.3
Streptococcal disease, invasive, group A	4.1	3.9	8	7.1	7.2	7.9
Streptococcal disease, invasive, group B	4.4	4.5	8	6.6	7.3	8.3
Streptococcal disease, invasive, other	10.2	9.7	5	13.8	14	10.3
Streptococcus pneumoniae, invasive disease	7.1	7	7	8.1	8.6	7.9
age <5 years	0.8	0.8	26	0.8	0.5	0.7

(continued)

Disease	2013	2014	2015	2016	2017	2018
Syphilis, congenital	0	0	0	0	0	0
Syphilis, early (infection < 12 months) primary & secondary	4.5	3.2	10	5	6.5	8.8
early latent	1.8	1.4	17	2	2.8	3.3
Syphilis, latent (infection > 12 months)	0.7	2.2	11	3.5	3.1	4.7
Tetanus	0	0	0	0	0	0
Toxic shock syndrome (staphylococcal or streptococcal)	0.4	0.5	20	1.1	1	1.1
Trichinellosis	0	0	0	0	0	0
Tuberculosis, active	1.1	1.1	17	0.7	0.9	0.6
Tularemia	0.1	0	41	0.2	0.2	0
Typhoid fever	0	0.1	0	0	0	0.1
Vancomycin-resistant Staphylococcus aureus (VRSA)	0	0	0	0	0	0
Vibriosis	0.1	0.1	33	0.4	0.5	0.5
Viral hemorrhagic fevers	0	0	0	0	0	0
West Nile virus, total	0.2	0.1	33	0.4	2	0.4
Yellow fever	0	0	0	0	0	0
Zika virus, congenital infection	0	0	0	0	0	0
Zika Virus Disease	0	0	0	1	0.3	0.4

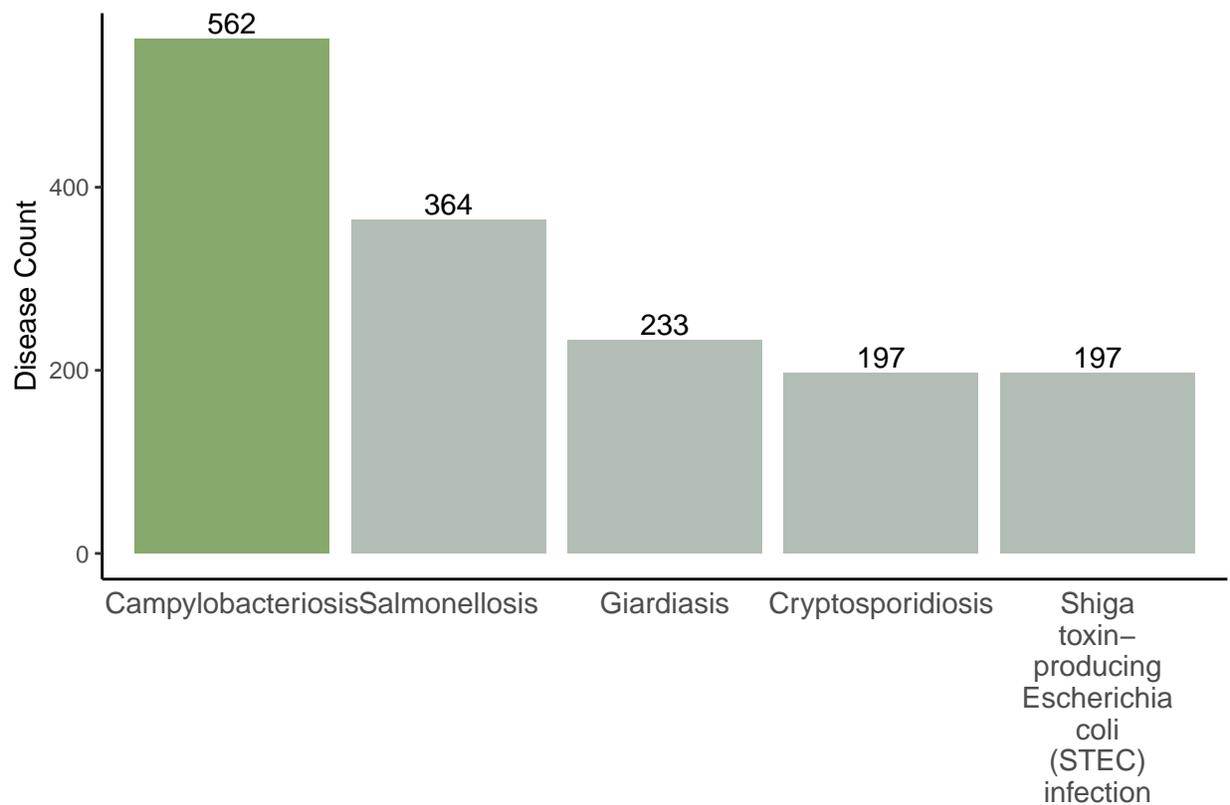
5 Diseases by Type

5.1 Enteric (intestinal) Diseases

Enteric diseases cause gastro-intestinal illness. The causative pathogens typically enter the body through the mouth through contaminated food or water, contact with animals or their environments, or contact with the feces of another infected human. For more information about enteric diseases, see [the CDC website](#).

5.1.1 The top five enteric diseases, 2018

Diseases highlighted in green indicate those diseases also in the top five confirmed cases across all reportable communicable diseases in Utah.



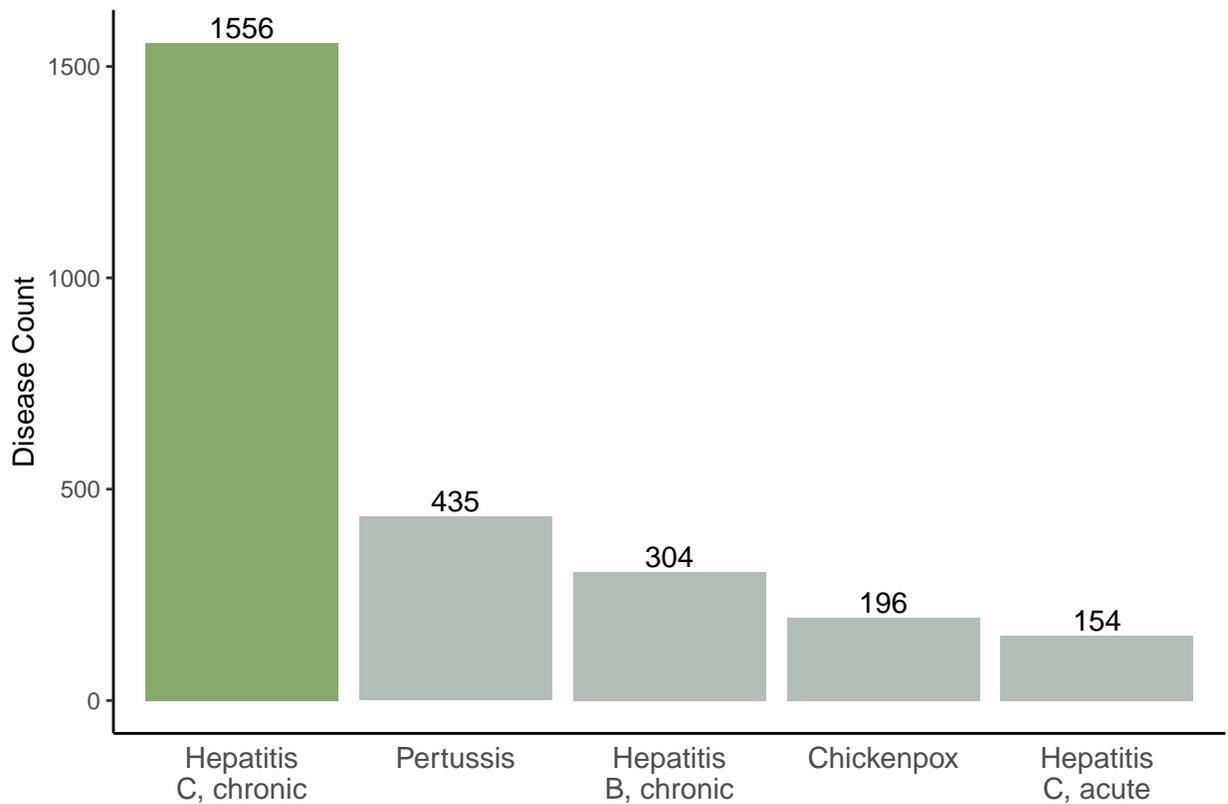
5.2 Vaccine-preventable Diseases & Viral Hepatitis

Vaccine-preventable Diseases (VPD) are infectious diseases that can be prevented by vaccines. For more information on VPDs, see [the CDC webpage](#).

Hepatitis is inflammation of the liver and is often caused by a virus. For more information, see [the CDC webpage](#) for viral hepatitis.

5.2.1 The top five VPDs/hepatitis infections, 2018

Diseases highlighted in green indicate those diseases also in the top five confirmed cases across all reportable communicable diseases in Utah.

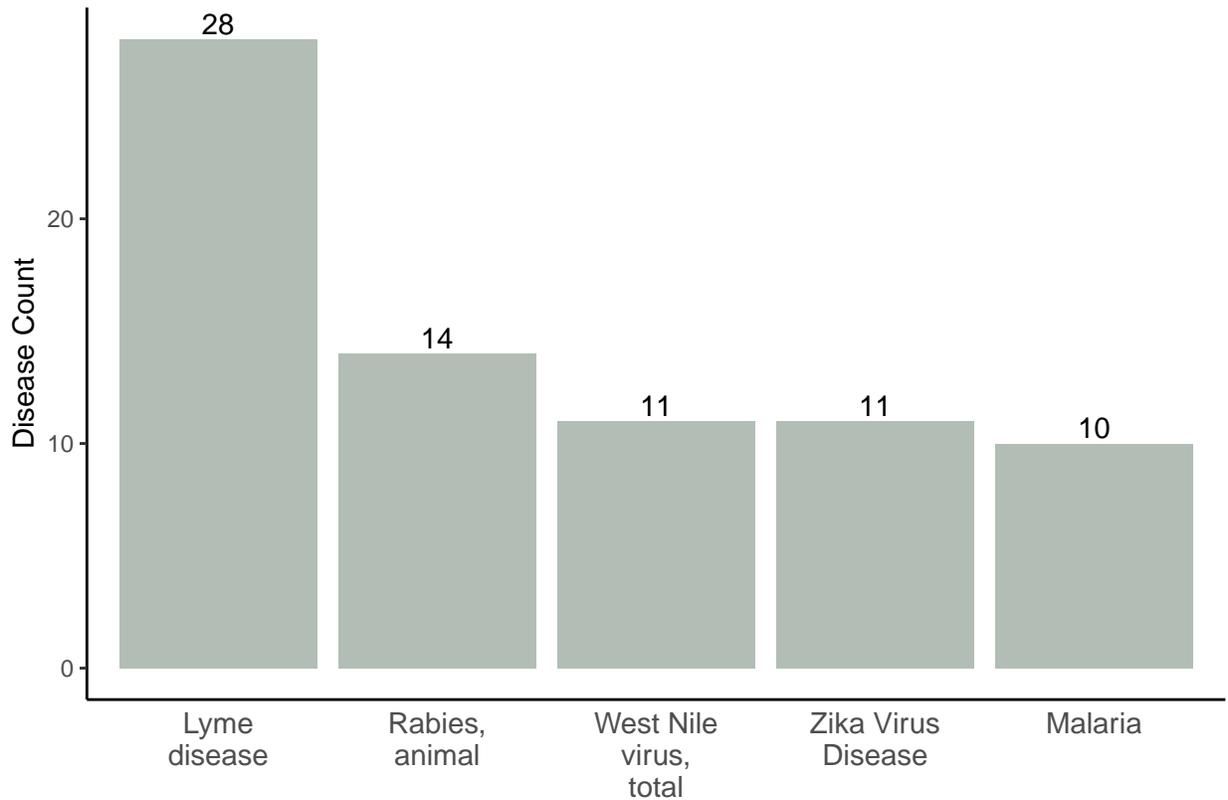


5.3 Zoonotic Diseases

Zoonotic diseases are caused by infectious organisms (bacteria, viruses, parasites) spread to humans from animals, often through vectors such as ticks and mosquitoes. More information can be found on the [CDC zoonotic webpage](#).

5.3.1 The top five zoonotic diseases, 2018

Diseases highlighted in green indicate those diseases also in the top five confirmed cases across all reportable communicable diseases in Utah.

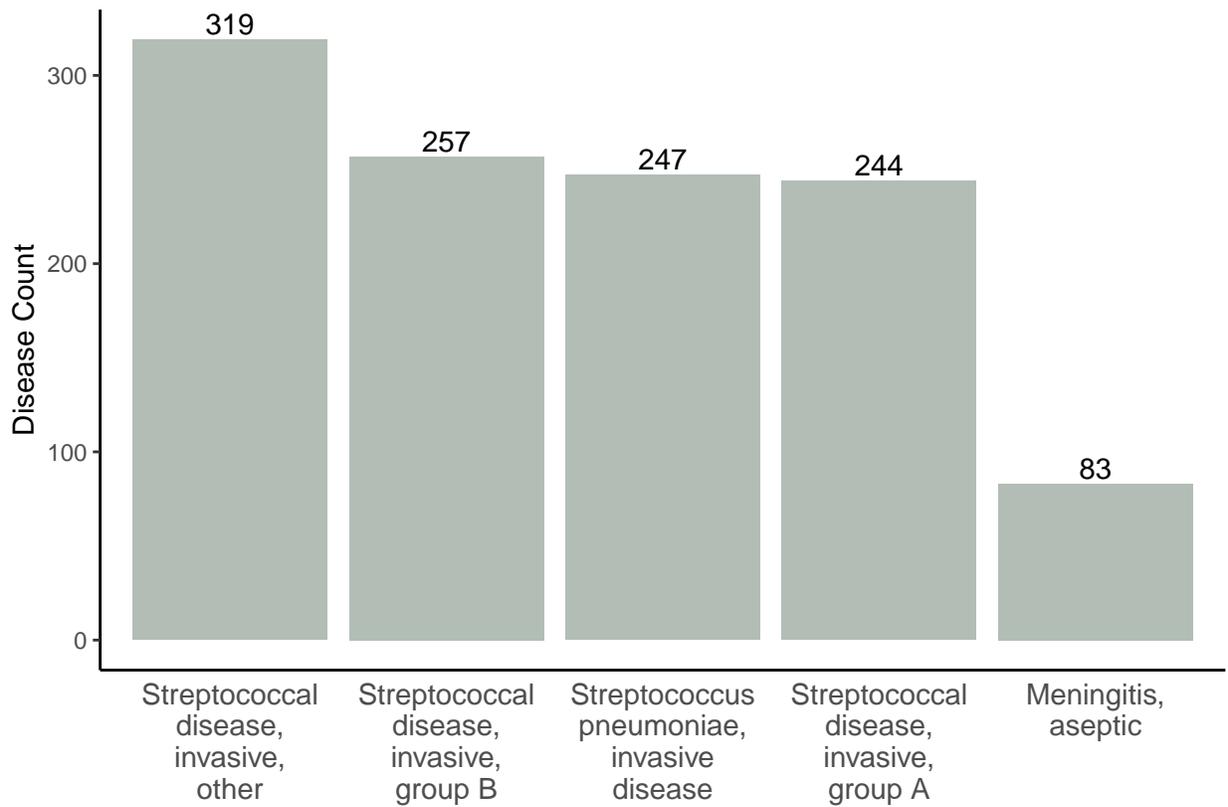


5.4 Invasive Diseases and General Reportable Diseases

Invasive diseases are those in which the infectious agents (eg. bacteria) infect parts of the body normally free from germs, such as the bloodstream or cerebrospinal fluid. For more information, see the [CDC webpage](#)

5.4.1 The top five invasive and other diseases, 2018

Diseases highlighted in green indicate those diseases also in the top five confirmed cases across all reportable communicable diseases in Utah.

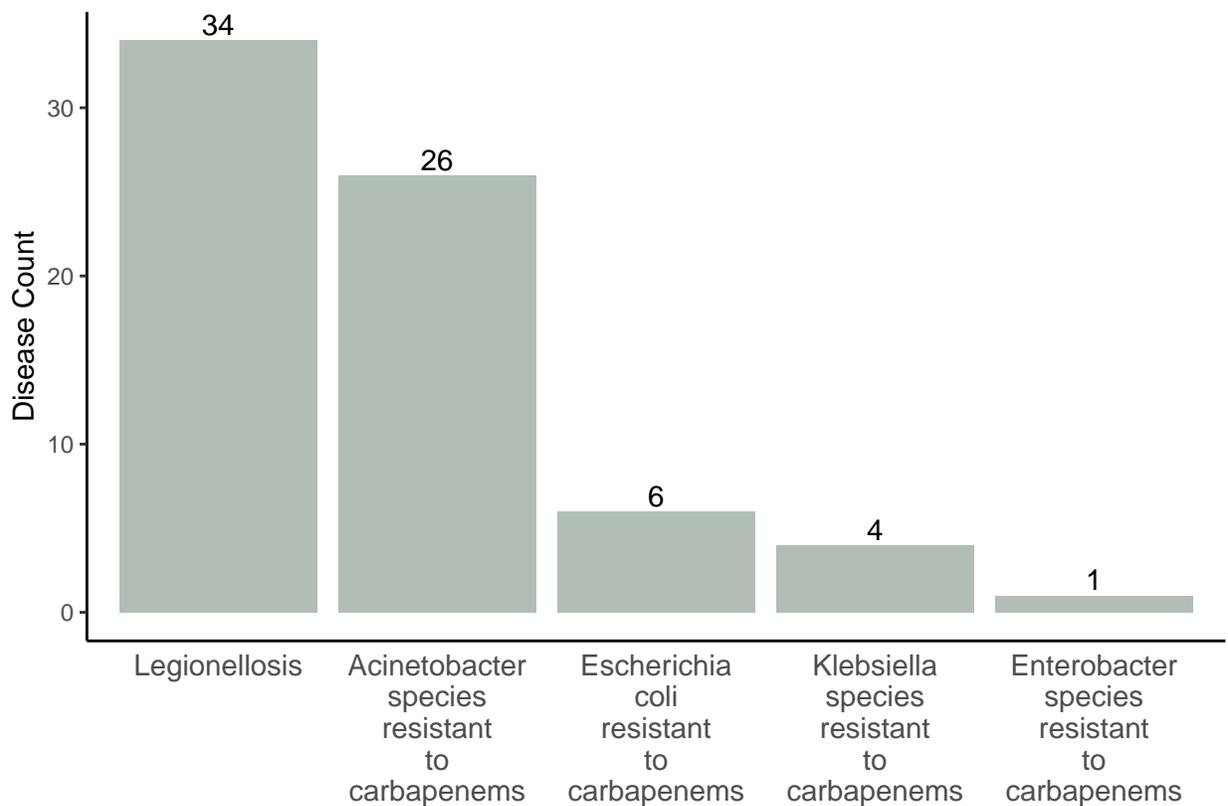


5.5 Healthcare-associated Infections

Healthcare-associated infections (HAIs) include illnesses such as central line-associated bloodstream infections, catheter-associated urinary tract infections, and ventilator-associated pneumonia. Infections may also occur at surgical sites. The UDOH works with healthcare facilities to monitor and prevent these infections and improve patient safety.

5.5.1 The top five healthcare-associated infections, 2018

Diseases highlighted in green indicate those diseases also in the top five confirmed cases across all reportable communicable diseases in Utah.



5.6 Sexually Transmitted Diseases

Sexually transmitted diseases (STDs) are very common and are passed from one person to another through sexual activity including vaginal, oral, and anal sex.

5.6.1 The top five sexually transmitted diseases of 2018

Diseases highlighted in green indicate those diseases also in the top five reported cases across all reportable communicable diseases in Utah.

